

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference B1075.70032	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 03/34828	International filing date (day/month/year) 31/10/2003	(Earliest) Priority Date (day/month/year) 31/10/2002
Applicant C.R. BARD, INC.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 8 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☒ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

ELECTROPHYSIOLOGY CATHETER WITH BIASED TIP

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☒ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

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☐ None of the figures.

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Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

A electrophysiology catheter including control, localization, and/or fluid delivery features, and methods of using the same. One embodiment of the invention is directed to an electrophysiology catheter including a superelastic wire which is shaped to bias the orientation of the catheter and a cable, and a method of controlling the catheter using the cable. Another embodiment is directed to an electrophysiology catheter including an adhesive to bias the orientation of the catheter. A further embodiment is directed to an electrophysiology catheter including an adhesive and one or more cables, and a method of controlling the catheter using the one or more cables. Another embodiment is directed to a method using acts of injecting a fluid into the heart of a patient and adjusting the diameter of an arcuate curve of the catheter. Further embodiments are directed to a catheter having multiple position sensors on an arcuate curve of the catheter or a position sensor associated with a movable electrode of the catheter.

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Rec'd PCT/

02 MAY 2005

nal Application No

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61B18/14 A61M25/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61B A61M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/37723 A (BOSTON SCIENT LTD) 31 May 2001 (2001-05-31)	1,2,4,5, 7-10,14, 15
Y	page 9, line 11 -page 23, line 19; figures ---	3
Y	DE 38 19 372 C (ZEIHER ANDREAS) 4 January 1990 (1990-01-04) column 2, line 13-22 column 3, line 28 -column 4, line 42; figures 4-8 ---	3
X	US 2001/039413 A1 (BOWE WADE A) 8 November 2001 (2001-11-08)	1,5,6, 12,14,15
A	paragraphs '0041!,'0046!-'0068!; figures ---	2-4, 8-11,13
	--- -/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the International filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the International filing date but later than the priority date claimed

T later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the International search

22 July 2004

Date of mailing of the International search report

02.08.2004

Name and mailing address of the ISA

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Authorized officer

Küster, G

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 931 811 A (HAISSAGUERRE MICHEL ET AL) 3 August 1999 (1999-08-03) column 2, line 66 -column 3, line 67; figures 1-3 ----	1,13,14, 74,75, 81,82, 85,86, 88,95, 96,99
X Y A	US 6 126 654 A (HORZEWSKI MICHAEL ET AL) 3 October 2000 (2000-10-03) column 8, line 40-49 column 9, line 31-41 column 10, line 1-33 column 11, line 60 -column 12, line 27 column 16, line 13-21; figures 1,2,10,11 ----	74,75, 78-90, 95,96,99 91-94 76,77, 97,98, 100,101
Y	US 5 865 800 A (MIRARCHI THOMAS F ET AL) 2 February 1999 (1999-02-02) column 5, line 48-67 ----	91-94
X	US 5 334 168 A (HEMMER CHAD G) 2 August 1994 (1994-08-02) column 1, line 14-17,52-68 column 4, line 57-64; figures ----	74,75, 78-90, 95,96,99
X	US 5 329 923 A (LUNDQUIST INGEMAR H) 19 July 1994 (1994-07-19) column 10, line 60 -column 11, line 16 column 12, line 63 -column 13, line 6 column 14, line 29-49 column 20, line 40-46; figures 9-16,35-41 ----	74,75, 80-82, 85-90, 95,97, 99,100
P,X	WO 02/094334 A (MEDTRONIC INC) 28 November 2002 (2002-11-28) page 15, paragraph 3 -page 20, paragraph 2; figures 1-8 ----	1-6, 8-11,13
P,X	US 2003/097128 A1 (HAYZELDEN ROBERT C) 22 May 2003 (2003-05-22) paragraphs '0032!,'0034!,'0036!,'0037!,'0040!,'0041!, '0047!,'0048!,'0053!; figures 4A,6A,7A,8-10 -----	74,75, 78-96,99

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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 44-48, 63-70
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery and therapy
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
1-15, 74-101
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-15

Electrophysiology catheter comprising a tip assembly being attached to a shaft, wherein the tip assembly includes a superelastic wire to bias the tip assembly in a first orientation

2. Claims: 16-43

Electrophysiology catheter comprising a tip assembly being attached to a shaft, wherein the tip assembly includes an adhesive cured in a configuration to bias the tip assembly in a first orientation

3. Claims: 49-57

Electrophysiology catheter comprising a biased tip assembly being attached to a shaft, and means for conducting a fluid

4. Claims: 58-62

Electrophysiology catheter comprising a biased tip assembly being attached to a shaft, wherein the tip assembly includes a plurality of position sensors

5. Claims: 71-73

Electrophysiology catheter comprising a biased tip assembly being attached to a shaft, wherein the tip assembly includes a movable electrode assembly

6. Claims: 74-101

Shaft /electrophysiology catheter comprising a channel formed of a superelastic material and shaped to bias a portion of the catheter in a first orientation

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Information on patent family members

Original Application No
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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0137723	A	31-05-2001	US 6613046 B1	02-09-2003
			US 6542781 B1	01-04-2003
			CA 2391488 A1	31-05-2001
			WO 0137723 A2	31-05-2001
			EP 1233716 A2	28-08-2002
			JP 2003514605 T	22-04-2003
			US 2003195406 A1	16-10-2003
			US 2002004631 A1	10-01-2002
			US 2003153967 A1	14-08-2003
			US 2001020174 A1	06-09-2001
			US 2002004644 A1	10-01-2002
DE 3819372	C	04-01-1990	DE 3819372 C1	04-01-1990
US 2001039413	A1	08-11-2001	US 6270496 B1	07-08-2001
			US 6096036 A	01-08-2000
			CA 2320795 A1	11-11-1999
			EP 1076578 A1	21-02-2001
			JP 2002513650 T	14-05-2002
			US 2002122236 A1	05-09-2002
			WO 9956810 A1	11-11-1999
			US 2002033989 A1	21-03-2002
US 5931811	A	03-08-1999	US 5779669 A	14-07-1998
			DE 69725087 D1	30-10-2003
			DE 69725087 T2	03-06-2004
			EP 0839547 A1	06-05-1998
			ES 2208803 T3	16-06-2004
			JP 3066827 B2	17-07-2000
			JP 10179759 A	07-07-1998
US 6126654	A	03-10-2000	US 5876373 A	02-03-1999
			US 6530913 B1	11-03-2003
			AU 5845398 A	08-10-1998
			CA 2233898 A1	04-10-1998
			EP 0868923 A2	07-10-1998
			JP 10295822 A	10-11-1998
US 5865800	A	02-02-1999	US 5562619 A	08-10-1996
			US 5376094 A	27-12-1994
			CA 2168968 A1	23-02-1995
			CA 2168969 A1	23-02-1995
			DE 69432182 D1	03-04-2003
			DE 69432182 T2	23-10-2003
			EP 0714268 A1	05-06-1996
			EP 0714262 A1	05-06-1996
			JP 9504188 T	28-04-1997
			JP 9504445 T	06-05-1997
			WO 9505129 A1	23-02-1995
			WO 9505116 A1	23-02-1995
US 5334168	A	02-08-1994	US 5531685 A	02-07-1996
US 5329923	A	19-07-1994	US 5454787 A	03-10-1995
			US 5477856 A	26-12-1995
			US 5685868 A	11-11-1997
			AT 179898 T	15-05-1999
			AT 191650 T	15-04-2000

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Information on patent family members

International Application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5329923	A	AU 660444 B2	29-06-1995
		AU 1085892 A	20-08-1992
		AU 690731 B2	30-04-1998
		AU 3295195 A	25-01-1996
		CA 2061215 A1	16-08-1992
		DE 69229147 D1	17-06-1999
		DE 69229147 T2	04-11-1999
		DE 69230921 D1	18-05-2000
		EP 0521595 A2	07-01-1993
		EP 0790066 A2	20-08-1997
		JP 7255855 A	09-10-1995
		US 5315996 A	31-05-1994
		US 5322064 A	21-06-1994
		US 5228441 A	20-07-1993
		US 6102886 A	15-08-2000
		US 5409453 A	25-04-1995
		US 5720719 A	24-02-1998
		US 5531677 A	02-07-1996
		US 5848986 A	15-12-1998
WO 02094334	A	EP 1395306 A1	10-03-2004
	28-11-2002	WO 02094334 A1	28-11-2002
		US 2003009095 A1	09-01-2003
US 2003097128	A1	NONE	
	22-05-2003		